

cirri of the Holothuridæ, the dorsal tubuli of the Asteridæ, and the ambulacral systems of canals of the class generally. In no division of the animal kingdom do the respiratory organs occupy a larger proportion of the whole bulk than they do in the Echinodermata. The great size which the convoluted plate attains in some of the Crinoids is therefore rather more in favour of its being a respiratory than a digestive organ.

Professor Wyville Thomson says that, inside of the cavity of the stomach of the recent Crinoid *Antedon rosaceus*, there is a spiral series of glandular folds, which he supposes to be a rudimentary liver (Phil. Trans. R. S. 1865, p. 525). It is barely possible that the convoluted plate may represent this organ. At present I think it does not.

I believe that the reason why the convoluted plate attained a greater proportional size in the palæozoic Crinoids than do the sand-canals of the recent Echinoderms, is that the function of the system of canals (of which they are all appendages) was at first mostly respiratory, whereas in the greater number of the existing groups it is more or less prehensile or locomotive, or both.

[To be continued.]

XLVIII.—*Descriptions of some new Species of Birds from Southern Asia.* By ARTHUR, VISCOUNT WALDEN, P.Z.S. &c.

*Geocichla layardi*, n. sp.

The *Geocichla* of Ceylon is most nearly allied to *G. citrina*, (Lath.), of Northern and Central India, and not, as might have been expected, to *G. cyanota*, (J. & S.), of Malabar. From Latham's bird it is to be readily distinguished by the much deeper orange of the head and nape, these parts being of the same dark shade of orange-brown characteristic of *G. rubecula*, Gould, ex Java. On the under surface the orange tints are brighter and richer than in *citrina*, yet not nearly so dark as in *G. rubecula*; the blue-grey portion of the plumage is likewise darker than in *G. citrina*, but not so dark as in *G. rubecula*. In the distribution of the white plumage the three species resemble each other; they appear, along with *G. rubiginosa*, Müller, ex Timor, to form a small natural section. Wing  $4\frac{3}{8}$  inches, bill  $\frac{4}{5}$ .

Described from a single Ceylon example, and which is marked by the collector as "rare."

*Irena turcosa*, n. sp.

*Irena puella*, (Lath.), Horsf. Linn. Tr. xiii. p. 153.

The species belonging to the genus *Irena* may be divided into two sections:—the first consisting of a single species, *I. cyanogastra*, Vigors, from the Philippines; the second comprising, at the least, three closely related species, of which *I. puella*, (Latham), may be made the type. *I. puella* appears to be restricted to the Western Ghauts of India and to Ceylon; for, judging only, it is true, from examples of the female, the Burmese race belongs to that of Malacca; and individuals from Arracan and Assam will, in all probability, be found to agree with those from Burma. The Malayan form, *I. cyanea*, (Begbie), (Malayan peninsula, 1834) = *I. malayensis*, Moore, frequents both the peninsula of Malacca and the island of Sumatra; for between examples from these two localities I can detect no distinction. Java contains a third species, the *I. puella*, (Lath.), ap. Horsf.; and it is for this species I propose the title given above. As in *I. cyanea*, (Begbie), the Javan *Irena* has the upper and under tail-coverts much more developed than in *I. puella* from the Western Ghauts. In my Javan examples the tail-coverts surpass the rectrices in length, while in *I. cyanea* the coverts do not quite equal the rectrices. The bill of *I. turcosa* is also stouter than that of *I. cyanea*. But the Javan *Irena* is most distinguished by the blue colouring of the upper plumage being light turquoise. When compared together, the Malabar *Irena* is dark blue, inclining, in some lights, to purple; the Malayan is of a somewhat lighter shade of blue; the Javan is light blue. In all three species the length of the wing is equal. In the Malabar bird the tail exceeds that of the other two by a quarter of an inch. The females of the Malayan and Javan species closely resemble each other in the colour of their plumage; the female of the Malabar bird is much darker, and easily recognizable.

Latham's *Fairy Roller* (Syn. Suppl. i. p. 87) was described from a drawing by Lady Impey. If the subject of that drawing was from Eastern India or the Malay peninsula (in itself most highly probable), the Malayan species will bear the title of *I. puella*, (Latham), and the Malabar bird that of *I. indica*, A. Hay; but, as the point is seemingly beyond the reach of proof, it will be best to adhere to the titles given above.

*Ephialtes jerdoni*, n. sp.

*Ephialtes lempiji*, Horsf., Jerdon, in part, B. of Ind. i. p. 138.

This title is suggested for the larger *Scops* owl of Malabar. Mr. Gurney, to whom I have submitted a large series of *E.*

*lempiji*, (Horsf.), and its affinèd species, concurs with me in the propriety of bestowing a separate title on the species inhabiting the Western Ghauts of India. It is chiefly characterized by the ruddy ground-colour of its plumage, and the tarsal feathers being nearly, if not quite, immaculate. This and *Scops griseus*, Jerd., form two well-marked species, both differing from Javan examples of *E. lempiji*, (Horsf.), the first inhabiting the Western Ghauts, the second the Eastern, and also the forests in the vicinity of Maunbhoom.

XLIX.—*On some Species of Probosciferous Gasteropods which inhabit the Seas of Japan.* By ARTHUR ADAMS, F.L.S., Staff-Surgeon, R.N.

SINCE I published my paper, in the 'Journal of the Linnean Society' for 1863, on the species of Fusidæ which were found by myself in Japan, I have seen the elaborate work of Dr. Schrenck on the Mollusca of Amur-Land and the Seas of Northern Japan. He there figures a very fine species of *Neptunea*, a group which seems to have its headquarters in northern seas, which he has named *Buccinum pericochlion*, and which is very similar in form to the elegant shell named by Dr. Baird *Chrysodomus abulatus*, from Vancouver's Island. *Buccinum yessoensis*, Schrenck, which I found in Aniwa Bay, in the island of Saghalien, belongs, I believe, to the genus *Urosalpinx*, recently established by Stimpson, as does also *Euthria badia*, A. Ad., from Tsus-Sima. The *Fusus lineolatus*, Dkr. (*Buccinum Dunkeri*, Küst.), is a Cape species of *Cominella*, but is stated by Schrenck to be also found in Hakodadi Bay.

In the 'Annals and Magazine of Natural History' for March 1863, I described twelve species of *Siphonalia*, a Fusoid genus which seems to represent *Neptunea* in the south of Japan. In the 'Proceedings of the Zoological Society' for 1862 the species of Muricidæ found in Japan are enumerated; and in the 'Journal of the Linnean Society,' vol. vii., I have given a list of the species of Mitridæ found by myself in Japanese waters. I now present the results of my personal knowledge of some other families of Probosciferous Gasteropods which inhabit the seas of Japan.

Fam. Tritoniidæ.

Genus TRITONIUM, Link.

*T. Sauliæ*, Rvc. (*Triton*), Conch. Icon. Mon. Triton.

*Hab.* Tatiyama, Tsusaki, Takano-Sima, Bay of Yeddo.